1: Glacken E-5 (1951-1952) 1953 AC7 Okinawa AC7

175
648 This nineteenth century conception of the Ryukyus as remote and isolated islands in a part of the world in which travel and trade had reached a high degree of development continued unabated to the beginning of the war in the Pacific. The reasons were entirely political. The Ryukyus were part of that walling off process which characterized Japan's policy and strategy toward its island mandates and possessions since the end of the first world war. Okinawa might well have become, as some of the English and American explorers of the nineteenth century hoped, a crossroads of importance in world trade. If it had, it would only have repeated a role it played centuries before.

Since the invasion of 1945, worldwide political realignments have given it a new, and perhaps its most important significance. Its general geography has remained the same. It is the history since the war, and the shaping of ideologies that have brought about this change. Before 1945, Okinawa was regarded by the Japanese as the outer fort and protector of the home islands; during the war, it became the important strategic spot, from the American point of view, for the contemplated invasion of Japan. With the Korean war, it has been transformed from a small outlier in the Pacific to an important strategic center off the Asiatic mainland.

Regional Differences in Okinawa Island[3]

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● 133 Okinawa, the largest of the islands in the Ryukyu chain, is about 485 square miles in area, 510 including its offshore islands, such as the Keram

[TEXT CONTINUES ON TOP OF P. 12--ANALYST]

114 3 A cultural geography of Okinawa is a real desideratum. But this is outside the scope of this work. Many materials have been brought together in memoranda, published and unpublished, surveys and the like, since the close of the war and the beginning of the American occupation. Lacking a newer synthesis, it seemed foolish to lengthen this report by merely repeating the published materials already available. The intention in this chapter is merely to indicate some of the general considerations helpful in understanding the history of the island and of contemporary life in the villages described. For the pre-war
114 geographical materials see Civil Affairs Handbook, Ryukyu (Loo-choo)
113 Islands, OPNAV 3-13, 3-38, the sections on geography and resources, and passim. Interesting information regarding local geography is scattered through the pages of Okinawa, The Last Battle, and for a general statement, see pp. 7-14. See also Walter R. Hacker's chapter on the Kurils and the Ryukyus in Geography of the Pacific, edited by Otis Freeman, New York and London, 1951, and M. Y. Nuttonson, Ecological Crop Geography and Field Practices of the Ryukyu Islands..., 11-58. For the geology, see, the CA Handbook, 11-12, Nuttonson, 29-36, and Engineering Geology, Okinawa (Prepared by Military Geology Branch US Geological Survey for Intelligence Division Office of the Engineer, GHQ, FEC, April 1951). This contains an Engineering Geology map of the island. For general relationships in this area see Trewartha, Glenn. T. Japan. A Physical, Cultural, and Regional Geography, v-ix, 3-4, and the map on the arcs and nodes, 8.

chain, Ie, Ihoya, and Kudaka islands. The main island is about sixty miles long, its length running generally northeast to southwest. It has an irregular coast line, peninsulas which jut out into the sea, and two isthmuses, one near present Camp Kue, the other farther north at Ishikawa. The width of the island varies from two to eighteen miles.

Okinawa may be divided into three geographical regions, which also roughly correspond to the ancient division of the island into a northern district (Kunigami or Yambaru), a central district (Nakagami), and a southern district (Shimajiri).

The northern district takes up about two-thirds of the area of the island. It begins at the northern isthmus which runs from Ishikawa town on the Pacific side to Nakadomari on the East China Sea side. South of this line, the island runs more or less in a north-south direction; north of the line, the island is situated in a pronounced northeast-southwest direction. Certain features distinguish this northern area from the two southern parts of Okinawa. A mountain ridge, almost entirely forested, runs down the center. Drainage from the short streams which rise in the mountains is down the east and west slopes. Villages and towns are on or near the coastal flatlands or on the coastal rolling hills. There are few settlements in the interior of the northern part of the island.

The central region of the island extends south from the Ishikawa-Nakadomari isthmus to the Naha-Yonabaru line. A corridor beginning on the eastern side at Yonabaru on Buckner Bay (formerly Nakagusuku-wan) connects with a long valley beginning around Naha. This provides a natural route cutting across the southern part of the island. The central region is the area of oldest settlement. It and the region to the south were the areas of the most intensive warfare during the campaign for Okinawa. The central region has a patternless physiography. Low rolling eroded hills, stony hills with sharp relief, dissected uplands and escarpments alternate with small alluvial valleys and flatlands. On these and on the lower slopes of the less stony hills cultivation takes place. Limestone sinks and caverns are commonplace. The most rugged terrain in this area is the region around Shuri and its northern approaches, the scene of the most prolonged fighting of the war in Okinawa. Unlike the north, settlements are scattered throughout the countryside, usually on the low lands at the base of hills, along the coasts, or in narrow winding valleys with low passes leading from one to the other.

The third region of the island extends from the Naha-Yonabaru line to the southern tip of the island. It is like the central part in the haphazard distribution of its land forms but somewhat flatter. Part of it is a limestone plain. The highest elevations are around the hills and mountains along Buckner Bay, with its narrow flat coastal strips, and along the southern portion of the Chinen peninsula, which also has flat beaches and beach ridges. It is an area of small plains, long, narrow but steep limestone mountains, and of rolling hills, escarpments which often abruptly end on the water's edge. In the area of one of these escarpments, Yaeju Dake, the final battle scenes of the war took place. The settlement

1: Glacken E-5 (1951-1952) 1953 AC7 Okinawa AC7

131 631 133 36 [161] pattern is similar to that of the central part. Villages are scattered throughout the area with population distribution comparable with the central area. Before the war, the densities here were over one thousand per square mile,[4] actually considerably more if the uninhabitable lands are subtracted.

311 How long this settlement pattern and these regional differences have existed is difficult to say. In studying contemporary environments, like Okinawa, which bear the imprint of long human settlement, it is useful to try to reconstruct the nature of the landscape before the interference of man. At one time, the whole island, with the exception of stony, rocky, and shallow soils and beach and marsh land was covered with forest. There are now no virgin stands. "It is evident that the present forest has been cut over many times. There seems to be no part of the island in which the forest cover has not been disturbed in some way by man."[5] In this light, the regional differences between the forested north and the deforested south are the work of man.

361 [073] [174] [161] The oldest settlements are thought to have been in the Naha and Shuri areas. Kudaka Island, off the southeast coast, according to one legend, was the site of the supernatural creation of the Okinawan people. The town of Unten, the Port Melville of Captain Hall and Commodore Perry, was, in one version, the scene of the landing of the Japanese warrior, Tametomo, but this was in the twelfth century. Northern areas were inhabited prior to the unification of the island in the twelfth century because they had their own regional chieftans before this. But the population of the north, at least up to the war, has been sparse and scattered. If the forests are any indication, it has been the central and southern regions which have been the scenes of longest settlement. Probably the settlement pattern had not changed much until the Japanese interventions of the nineteenth century and the great changes coming with the recent war, and with the extensive modifications which the Americans have made in the landscape of the central region.

[177] [178]

3

General Climatic Conditions

132 In the Köppen system, Okinawa has a humid subtropical climate. It is a rainy climate with no marked dry season; it has a mild winter and the temperature of the warmest month is over 71.6°F. The average annual temperatures in Naha range from 61° for January and February to 82°F for July and August, and the range from the mean minimum of 55° in February to the

[TEXT CONTINUES TOP of P. 14--Analyst]

4 See the population distribution maps in CA Handbook, Ryukyu (Loo-choo Islands, 48-49.

5 Okinawan Forests. (Prepared by the USGS, Military Geology Section under the direction of Office of the Engineer, GHQ, Far East Command), 1948, 2.

1: Glacken E-5 (1951-1952) 1953 AC7 Okinawa AC7

132 There are further local variations. Thundershowers often occur over a limited area. This precipitation is described by Okinawans as katabui, by which they mean a scattered, here-and-there rainfall.

[131] These variations in rainfall throughout the year and from year to year are the source of complaints of drought, frequently heard in the summer growing and fall harvesting season from July to October.
[217] Dr. Green of Commodore Perry's staff mentions that droughts were spoken of in an official Loochoo document.

[134] There is also hidden drought caused by the rapid runoff of water and the absorption of water by permeable soils and quick subterranean drainage.
[133] Water for crop growth is thus immediately dependent upon rainfall which must be immediately used before it becomes inaccessible. There are no snowy mountains to store the water for gradual use.

Since it is in a zone of mixture of warm and cold air, Okinawa is cloudy a great deal of the year. The days with the highest percentage of sunshine occur from June to October. There is very little condensation near the surface and fog is uncommon.

Relative humidity is high throughout the year. On the average, it does not fall below 74% (in December), and the highest average is 85% in June. This condition produces a hot humid summer, often with overcast skies and it also brings about a felt or sensible temperature much colder in winter than the temperature would indicate. Okinawan winters may be cold, especially with the winds from the northeast and east northeast. Blankets and heavy clothing do not hold the bodily heat. The insulating value of clothing and blankets seems to be reduced.

Okinawa is also affected by monsoonal influences in southern Asia. In the summer, the basic factor is the heating of large masses of continental air, the creation of low pressure areas, and the transport of air from the ocean to the continent. Prevailing winds are from the east, south, or south south east, or east south east, but here the prevailing should be stressed. Actually in a given period winds may shift and flow from varying directions.

In the winter, it is the air over the ocean that is warmer and the dry air from the cold high pressure areas blows out over the island. Prevailing winds from October through January are from the northeast. Though the mean velocities are modest, strong winds are recorded for every month in the year, winds either from the continent, or typhoons originating in the oceans north of the equator.

132 133 Another modifying factor is the Japanese current (Kuroshio). This current is really part of the North Equatorial current thought to have its origin on the Pacific side of Central America. As the current crosses the Pacific, it gets added colder water from the California current, and is further mixed with tropical and north Pacific waters, and later with western North Pacific waters. The North Equatorial current divides east of the Philippines, its northern arm going along the east side of the

northern Philippines and Formosa. From Formosa, these warm waters continue northeast between the Ryukyus and the shallow parts of the China Sea. In August the current flows on both sides of the islands. The behavior of the Japanese current in this area is strikingly similar to that of the Florida current of the Gulf Stream.[6] 132 133

The Ryukyus are in one of the great typhoon areas of the world. The season is from May to October, times of low atmospheric pressure, when the average range is from 1007 to 1015 millibars compared with a November-April range of 1015 to 1021 millibars. The period usually described as the typhoon season actually represents minimum expectations, for, as the table shows, typhoons have occurred in every month of the year, with the lowest incidence in April. The range from a minimum of twelve to a maximum of forty-five shows the reasons for uncertainties and the uneasiness with which the weather is regarded in the islands. The period of most frequent typhoon incidence coincides with the growing season, and violent typhoons can be expected as a matter of course prior to the winter rice harvest. 132 [731]

In typhoons, heavy winds, and gales, damage from salt water spray, especially in cultivated strips along the coast, can be expected. Local topography has a determining influence on the direction and area of spray damage, but some farmers in the Nagamo area estimated that spray damage had extended inland in some cases for two miles. There is also the problem of the saline content of rainwater. 132 133 [311]

Okinawa has a marine climate modified from what one might expect of its latitude by the monsoon regime which affects southeast Asia. When we understand this, the nature of the rainfall and its distribution, the possibility of drought, and of typhoons and their destructiveness, we are are in a better position to appreciate the difficulties under which agriculture must be practiced. 132

6 Sverdrup, Johnson, and Fleming, The Oceans, 718-22 and the literature there cited. Wust has pointed out in detail the similarities between the two currents. One difference is that the salinity of the Kuroshio is less and its waters are subject to excessive cooling in winter by the cold winds from the continent. See also Nuttonson, as cited, 20.

4

The Disappointing Soils

Okinawa is small and has a large population. Agriculture has been and will continue to be the main source of livelihood for the people. For this reason, a consideration of the nature of its soils has practical interest. The soils of Okinawa fortunately have recently been surveyed, classified, mapped, and computations made of the approximate areas of each soil type.

Estimated Acreage on Okinawa Island

1. The alluvial soils of the coastal flats and flood plains (Akamaru and Aha soils). About 80% of these are the gray clays given over to rice fields, and 20% in the brown and well drained Aha soils. These soils have no distinct profile, average more than six feet in depth, are slightly to medium acid. Deep and fertile, they are composed of loam, clay loam, and sandy loams. They are scattered over the island, frequently at the heads of bays or inlets where the short rivers come to the sea. The most conspicuous occurrences are in the Northern region, including the Motobu peninsula. They are much less frequent in the central district, and scarce in the southern district, with the most conspicuous spots along the Minatogawa river and the headwaters of a small stream south of Minatogawa. These soils are level or almost level (surface gradient 0-1.3%). The water table is seldom more than two feet below the surface. 10,900

[Text continues on TOP of P. 19 - Analysis]

7 The following materials have been used: (1) Soils of Okinawa, 11 sheets, controlled photomaps, with soil map overprint, prepared under the direction of the Engineer, Far Eastern Command, by various staff members of the US Geological Survey, Dept. of the Interior, and the Soil Survey of the USDA. (2) Okinawa Soils, a more generalized map, on one sheet (1:1,000,000) prepared by the Military Geology Branch, USGS, for the Intelligence Division, Office of the Engineer, GHQ, FEC, 1951. This is a map of dominant soil types. The analysis here is based on this unclassified map. See also the discussion in Muttonson, as cited, 37-48. The writer wishes to acknowledge the courtesy and assistance of Mr. Sherman Neuschel, Chief, Military Geology Section, FEC, and Mr. Carl Stensland, Soil Scientist, who participated in the survey of Okinawan soils. In Tokyo on my return, I profited from my discussions with Dr. Stensland, who also furnished me with grid computations for the village areas in which I was interested.

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Estimated Acreage on Okinawa Island

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2. The alluvial clays of the coastal flats and flood plains (Awase clay). These are also deep and fertile. Lack of water prevents extensive rice cultivation. About 60% of the area is in sweet potatoes and other dry land crops, another 30% in settled areas or military installations, and 10% in rice. These are olive, gray colored soils, of calcareous clay. They also have a low surface gradient. The water table is close to the surface, about two feet on the coasts, and near the surface in the interior valleys, except that in dry periods, it might be five feet below the surface or entirely absent. The soils are slowly permeable and slowly drained. They are almost absent from the north, common but scattered in the central and southern regions. About three-fourths of the area is found on coastal flats and one fourth on the bottoms of inland valleys. The greatest area is the coastal strip along Buckner Bay from the Katchin peninsula to Yonabaru, Bucknerville, most of the perimeter of the Chinen peninsula, a narrow strip in the Sukiran, Camp Kue coastal area, and another strip along the coast south of Naha. 16,200

[311]

3. The grayish brown loamy soils (Shioya loamy sand) with limestone grains, minor impurities and some organic matter, usually resting on coral sand. The soils, too porous for rice culture, have low fertility, and are nearly level on the raised beaches. They are widely scattered along the entire coast, but the individual patches are very small. Due to low fertility and the small area, the soils are not important. 2,650

4. The clay loams and the stony clays (Okinawa clay loams and Chinen stony clays). Both occur on limestone plains. These are fertile and well drained. "Both are very crumbly, or strongly granular; although clayey and plastic, they are porous, permeable, and of good tilth." Generally these soils are neutral with a tendency toward acidity when depth to limestone exceeds ten or fifteen feet. Seventy percent of this group is the Okinawan clay loam, with a top soil of a dark brown clay loam five to ten inches thick. Of the clay loams, totalling 30,500 acres, 22,400 have a surface gradient of 2-8%; 5200, 8-15% and 2900, 15-25%. 30,500

The stony clay (Chinen stony clays), "the shallow stony soil occupying 30% of the unit, consists of dark-brown to brown clay or clay loam with loose fragments and outcrops of the limestone bedrock." Stone occupies 10-30% of the surface of these soils. Over half of the 12,000 acres is gently sloping (2-8%), the remainder being steeper (8-15%) 12,000

Estimated Acreage on Okinawa Island

These soils on limestone plains are found chiefly in the central region, the extreme south, and along the northern coast of the Motobu peninsula. There are sizeable individual units throughout the island and on the offshore islands. These soils were found in the environs of all the villages studied.

5. The gently sloping Shuri clays. They are olive colored calcareous clays, slowly drained and moderately fertile. They are scattered in the central and southern regions. 9,300

6. The Upland Shuri Clays and rough broken land. The crumbly clay soils are "over bedrock of compact impervious clay." Sixty percent of the unit resembles the Shuri clays, but the soils are shallower and the slope is steeper. The steep areas are even shallower, and there are frequent outcrops of raw clay bedrock.

Sloping and hilly upland	18,200	
Steep escarpments	11,200	29,400

These soils dominate the landscape of the eastern part of the central region and much of the south. They are not found to any degree in the northern area. The gentler sloping parts are in dry land crops, but much is also idle land. The steep parts are in grass or in brush, the familiar genya land.

7. The Ishikawa loams. These are deeply drained acid soils of low fertility. The thin surface is of a pale brown friable loam. It is an area suited to forestry. Of the 42,780 acres in the unit, 4,480 are moderately steep, 3,400 hilly, and 34,900 steep. 42,780

8. The shallow and acid soils of the mountains and hilly upland. These are the soils of low fertility of the northern forested area. They are shallow light colored acid loams with a prevailing gradient of 50-100%. 119,000

9. Rough stony land of limestone mountains and steep slopes. These patches occur in narrow ribbons throughout the island, but are most conspicuous along the Motobu peninsula, and the central region. The finger like ridges of the extreme south are notable examples. 14,900

If these acreage estimates are summarized showing the approximate areas for different types of land use, the

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311 magnitude of the land problem stands out clearly:

Type of Use	Acreage
Total	287,630
Rice Fields	10,420
Dry Land Crops	57,715
Town Sites, Military Uses, etc.	19,595
Shrub, Grasses, Stony Land, Escarpments	27,800
Forest	153,900
Not Broken Down a/	18,200

a/ Probably mostly cultivated land with some in town sites, some idle, some in military installations.

What stands out is the high percentage of land in forest, shrub, grasses, stony land and escarpments that has little promise for future utilization. These soils now probably enjoy their best utilization.

[108] With a growing population and more economic activity, it is likely that areas in man made installations and settlement will increase, not decrease, and that further land for these purposes will come, not from the stony or forested soils, but from the arable land.

The soil survey documents what is apparent to general observation that the soils suitable for rice, and having water for its successful growth, are a minor percentage of the total area. The chief foods, it is apparent, must continue to come from dry land crops and slope cultivation.

134 311 Even though agriculture is and will continue to be the basis of the islanders' economic life, the lack of suitability of the soils for this purpose is especially striking. Improvement of agriculture, introduction of better methods of farming, the increased use of fertilizers, while effective, could only be a palliative when the total arable land for over five hundred thousand people is in the magnitude of 86,000 acres, if we include all the 18,200 acres in the above table which are not broken down. Even if this figure is too low, the mere fact that over 180,000 of the 287,630 acres is in forest, or shrub, grass, or stony land, and of low fertility is sufficient indication of the land use problem. These facts are supported by farmers' own appraisals of the nature of the soils of their island.

161 ● 133 311 The following table, even if inaccurate, certainly states the problem in its proper magnitude:

Table 3

Population of Okinawa Island, 1950	517,600

1: Glacken E-5 (1951-1952) 1953 AC7 Okinawa AC7

Approximate area in square miles	454
Population density per square mile	1139
Assumed area in cultivation in square miles a/	134.4
Population density per square mile of arable land	3851

a/ See discussion above. The 134.4 square miles is an approximation derived by adding the areas in wet rice, dry land crops, and 18,200 acres which includes land in cultivation, in town sites, military installations, and in idle land, a total of 86,335. An arbitrary approximation of 80,000 acres (134.4 sq. miles) was then taken, very probably too high a figure. Nuttonson, op. cit., p. 12, gives the cultivated area as less than one-fourth of the total area, or 67,200 acres. One of course must distinguish between cultivated land and land that can be cultivated, but 80,000 acres still seems a reasonable approximation.

If we look at the geography of Okinawa from the point of view of the total physical environment and not merely from the point of view of the amount of arable land available to support the people, we are forced to the conclusion that as a result of long settlement, a growing population and the destruction of the war, combined with periodic and inevitable property and crop damage from typhoons, that the environment is not suited for the comfort and well-being of large numbers of people. Intense fertilization will keep the good soils growing crops. Increase of trade and some industrialization may help as long as they do not lead to destructive exploitation of the forests, and some small help may come from the reclamation of unused or cut over land.

5

Conclusion

Almost one hundred years ago, one of the observers on Commodore Perry's expedition wrote,

> "That the island has been peopled for many ages, is evidenced by the graded roads and deep cuts, the structure and manifest age of the bridges, the antiquity of the villages, the great amount of stone-work in the towns and in the fortresses--some old and dilapidated, some modern and in repair; but, above all, by the incalculable amount of labor done in grading the land for culture. That which is now so perfect, could only have been made so by degrees, like structures reared by the ant or bee."[8]

8 Hawks, Perry's Expedition, as cited, II, 36.

The village is one of a series of settlements in a long narrow valley, on a limestone plain, bordered on the east by a steep ridge, up to 300 feet in elevation and running in a northwest and southeast direction, which divides the valley from the sea. On these cliff like formations, large outcrops are covered with shrubs and miscanthus grass. Lanes and roads lead from the valley floor to the summits of these hills, where villagers collect their firewood and grass for roof thatch. On the rocky, steep slopes of this seaward ridge, above the line of cultivation, is the tomb area. Precipitous and stony hills prevent cultivation, but occasionally a sharp tongue of land reaches far up the slope, its end protected from the rains and wash by a short stone fence.

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Between Gushichan and Hanashiro village, there is a bridge over a small stream, its upstream course obscured by its dispersion in the rice fields. The dirt road, gradually ascending, cuts through the main rice growing area of the village, on a gentle slope, reflected in the bench cultivation of the rice fields. Here and there are large rocks and stony outcrops, with an occasional scrub pine, cycad, or a covering of miscanthus. Cultivation goes around these large stones.

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The road, about one-fourth of a mile from the bridge, soon leads into what looks like, from a distance, a densely wooded area. This is the settlement.

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With the exception of the rough stony land of the limestone mountains and steep slopes, the soils of the area are the Okinawa clay loams and the Chinen stony clays lying on the limestone plains. The farm and village area takes up approximately 427 acres, of which 257 are in gently sloping Okinawa clay loams, a deep, well drained, neutral to slightly acid and very fertile soil. Another five acres is of the same type but these are in slopes, of a gradient ranging from 8-15%. There are 80 acres in gently sloping Shuri clays, shallow, moderately fertile, an olive colored, crumbly, calcareous clay; another 35 acres in the Awase clays, deep fertile, crumbly, calcareous clay of olive-gray color, and 14 acres of rough stony land.

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The hillsides and the summits are free of densely growing trees and shrubs, and the lowlands are given over to cultivation. There are no groves of trees to protect the crops from typhoons. The trees and the protection they give are confined to the village. This is typical of many villages of southern Okinawa, where the hills and mountains have few trees, and dense growths are associated with habitation.

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Inside the village, winding lanes branch off the main dirt road. The older houses are on the north side of the road. On the opposite side, the houses, newer or rebuilt since the war, adjoin the cultivated area. In the older section, the dense shrubbery, the tree lined lanes, broken occasionally by stone fences, wind through the village with footpaths branching off, sometimes past an open field, a reminder of a failure to rebuild after the war. On the northern outskirts is the village office, its gong in the yard, the open field, a playground for the children.

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Since the war, the old narrow one lane roads have been broadened, permitting heavier auto traffic. Land ownership has been undisturbed, for it is not in an area in which the military has required land. Since the war, the villagers have tried to return to their former way of life, but this has been done with poorer houses and fewer possessions.

3

Minatogawa

Minatogawa, the second village studied, formerly was a shoe string type of settlement. Houses, shops, drinking places were along the seawall road. This pattern is now altered as a result of the war. Scattered areas have been relocated and houses built on lands formerly used for sweet potatoes. It is now an indeterminate type of village, retaining some indications of its old settlement pattern along the main road, with additions of clusters of houses in the newly settled areas.

Like Hanashiro, this village is in Gushichan township, and located on Highway 6[illegible]. It is directly on the main historical road, previously mentioned, which led from Naha to the Chinen peninsula. The road, along which its houses are built, parallels for a distance the estuary of the small Minatogawa river. This narrow estuary, called Usaregawa, which connects the river mouth with the Pacific Ocean, and the small river itself (Yuhigawa) is a boundary between Gushichan and Tamagusuku townships. On either side there are steep cliffs, the sites of the best known stone quarries of Okinawa.

The settlement and the adjoining lands have an area of about 256 acres. It is a mixed economy village with three distinct occupational groups: fishermen, stonecutters, and farmers. There is a second village whose borders blend with those of Minatogawa. These two villages are now known officially as Minatogawa-ichiku and Minatogawa-niku. The two terms can be awkwardly translated as Minatogawa first ward, and Minatogawa second ward. But popularly they retain their older names: Minatogawa for the fishing village, and Nagamo for the agricultural second ward. These two separate but adjoining villages were until 1925 a single village.

The division was the result of distinct differences in outlook and occupation between the two sections. Minatogawa is a fishing village and has strong ties with Itoman, a town on the East China Sea shore about 4 1/2 miles away. Nagamo is an agricultural community originally settled from Naha and Shuri. Stone-cutting operations spread over both areas. While the fishing village of Minatogawa was given the emphasis in this study, it will be necessary occasionally to include Nagamo in the discussion.[8]

8 The writer did not realize until he lived here that two villages were involved, thinking that the two wards referred to a single administrative unit. By this time the work on Hanashiro had been well started, and time did not permit the intensive study of Nagamo.

The people of Nagamo are farmers. The seat of their extended families is in Naha and Shuri, and they have their own local deity places (ujigami in Japanese). The people of Minatogawa are fishermen, their extended family seats are in Itoman. They too have their local deities and many of their religious ceremonies are centered around the gods of the sea and the dragon of the sea god's palace.

The population of Minatogawa, as of December 31, 1951, was 1108 (515 males, 593 females) in 213 households, an average of 5.2 persons per household, and of adjoining Nagamo, 564 persons (262 males, 302 females) with 113 households, an average of 5.0 persons per household.

The fishing village of Minatogawa is believed to be about 250 years old. It was founded, according to local residents, by the fishermen of Itoman who were accustomed to fish off shore near the islands around the southeastern and southwestern parts of Okinawa. The place was first established as a temporary location for the fishing boats and later permanent settlement took place. The tombs of Itoman are still the ultimate burying ground for large numbers of the Minatogawa fishermen. After 250 years the ties with the parent town are still strong.

The village has two traditions involving contacts with other peoples. The first is concerned with the Chinese. One is a spot on the shore where some Chinese are said to have landed over 200 years ago. Many fishermen pray to it on certain occasions of the year. Little is known of what happened to the Chinese, but supposedly they were buried high up the side of a steep mountain nearby, inside a cave with stalactites. Bones said to be of these Chinese may still be seen there. The cave is difficult of access.

There is also the tradition of London sailors said to have been shipwrecked at the port of Kiyan on the southwest tip of Okinawa. A child was born of the union of one of these sailors with an Okinawan woman and the sailor later returned to England. The tomb of the woman and the child is revered as a religious site. It is now a small shrine on the outskirts of Itoman called Rondongama, Rondon for London.[9] Old women of Minatogawa sing a song of this old love called Michinakankai. The theme of the song is the unashamed love of the woman for her departed London lover, an Okinawan anticipation of Madame Butterfly.

In this area the low, bare hills form in a haphazard way a series of valleys, some long and narrow, others like an amphitheatre with an open face to the sea. Low passes connect the valleys. One such pass, about 150 feet high, now on Highway 64, leads from the valley of

[Text Continues on Top of P. 53--Analyst]

9 The writer visited both the cave and the site near Itoman town in August 1951. The shrine is now situated on a small hill on the outskirts of Itoman. The bones were moved here during the war from Haizato village to escape Japanese bombing. A large cave nearby, associated with the mother and the child, is overgrown and very dangerous to enter because of the danger of snakes.

133 Hanashiro and Oushichan villages to a broad semi-circular valley, the
361 Oushichan plain, with a gentle gradient sloping to the sea. Shortly before the coast is reached there is a sharper drop, and it is in this depression along the shore and the coastal strip that the fishing village lies.

134 The Okinawan clay loams and the Chinen stony clays are also the
133 predominating soils of the area. There are about 85 acres of the gently sloping clay loams, 155 acres of the gently sloping Chinen stony clays. While moderately fertile and well drained, these soils are also shallow and stony, with obvious defects for the pursuit of agriculture. There are 10 acres of deep, fertile poorly drained, slightly acid alluvial soils. These occur along the river and its estuary and in a small former river mouth to the south. There are about six acres in rough stony land.

731 The village has very little storm protection. There are no shelter
133 belts around it, nor are there many trees within. It is open to storms
417 and typhoons, and the water, lashed by the sea, is sufficient to break and scatter the large stones of the seawall. At present, inside the village there is none of the privacy typical of the agricultural villages
361 and their compounds. There are few trees, shrubs, or fences. In the
351 older part of the village, the houses are closely set together. Fishing
225 nets hang on the lines of the yard. In season, the yard is covered with drying fish, fish fins, and fish backs. The yards and the shore are dotted with men cleaning or repairing their boats.

362 The lack of natural beauty of the place is accentuated by the poor-
517 ness of the houses and the other buildings. Its atmosphere is unmistakably
484 different. The village is more commercial and more lively than the quiet and concealed agricultural village. Life is not so much of a routine, for much depends on the weather and the sea. The village has people who have travelled widely. Some of its fishermen have been in the waters of Java, of the South Seas, of the Andaman Islands, the Philippines, and Indo-China.

438 The village's main commercial contacts are with the remaining
[311] agricultural villages of the township from which it must obtain much of its food, for the area is not suited to agriculture, nor is much land available. For wider contacts, there are Itoman about 4 1/2 miles, and Naha about 8 1/2 miles away. Buses go through the village twice a day.
494 The three wheeled cycles are irregular but come and go more often. Fish
368 is sold at Naha. The theatre for the travelling troupe of actors from
574 Naha and for movies is in Horikawa across the river. Many visits are also made to Itoman to see relatives and friends.

727 The war was even more catastrophic for Hinatogawa than for Hanashiro.
[361] Before the war, Hinatogawa was a thriving, prosperous and well built up small town. About 70% of its buildings had a tile roof and 30% had thatch roofs. There were about 30 stores, sake shops and drinking places, including a geisha house, along the road, serving the fishermen and the stonecutters. Of the 430 buildings in the area, only three were left

226 463 engaged in fishing are permanent or transient families originally from Itoman, a place name which comes up whenever fishing is mentioned anywhere in Okinawa. Agriculture and the care and utilization of the community forest make up the significant economic activities of the village.

162 Matsuda had a population of 1370 individuals (604 male, 766 female) as of November 30, 1951. There were, at this time, 243 households, an average of 5.6 persons per household. The village is said by local residents and antiquarians to be about 600 years old. If the age is 361 correct, it must be one of the older settlements in northern Okinawa. Before the war, this village was known as Kochiya.

173 Matsuda also has its lore regarding shipwrecks and foreigners. There are old men who believe Perry's party came to the village and that they left carvings on the top of a picturesque rock in the Burushii district along the coast, a not unbelievable story since the explorers certainly were not far from here.

Near the seashore, but in a very remote area, there is a natural bridge, concealed by large trees. Roots of the banyan grow through the [137] thirty or forty foot drop from the top of the bridge until they find root in the soil below. On a ledge under this bridge, there are two [164] old and open boxes which were used to collect the skulls and bones of unknown persons. Locally it is believed that they are the remains of shipwrecked sailors, possibly Hollanders. There are still 25 or 30 skulls there, and many of the bones are scattered on the ground. The place is seldom visited.

361 The village rests on low rolling hills. The combination of the ●133 hills, the depressions, the caves and the sinks give the topography an uneven almost rugged character. There are few flat places and these are seldom wide. They are the narrow meadows or valleys between the hills. 241 The hilly nature of the surroundings determines to a large extent the 311 manner of cultivation, and historically probably has had much to do with the shapes of the individual parcels themselves. One does not see in this area the plains or small valleys with rice cultivation that is observed in Haneji township near Nago or around the island of U in Tamagusuku township, or even in the Hanashiro area of Gushichan township. In these communities, the normal pattern of cultivation is that the rice is on the lowlands, with the slopes and upland areas devoted to sugar cane, the sweet potato, or other crops, or left to native grasses. Here in the hundreds of small hills, all of these may be observed in close proximity, hard work and minute tillage comprising with the topography.

361 The village is subdivided into several distinct areas: (1) the main 311 part of the village where most of the houses, the village office, the small stores, the rice mill, the sawmill, the power plant, and the barbershop are located, (2) a reclaimed area known locally as the kaikon, newly settled and with a different type of land use due to the poorness of the land and to the fact that it is a deforested area, (3) a district near the sea coast and along the sea with scattered settlements, isolated houses, and some cultivation, and (4) the forest lands, which in the

Goldschmidt then remarks that the peasant in the last years of his possession thought only of the parcel to come in the next allotment and did nothing for his land, and that in consequence its productivity fell. There was private ownership at that time only of newly reclaimed land or land filled in along the seashore, and this land went to the person who had done the work. The Japanese, when they abolished the system, divided land among families by number of members and since this time large holdings have not been created. Goldschmidt adds that "the land still suffers now from the consequences of this old system."[4] 175 423

To discover precisely the nature of the influences of the old system cannot be done with accuracy because of the destruction of local records, the vagueness of recollection among the old and of the inability to reconstruct old boundaries. What follows therefore is partly speculative, but nevertheless useful in suggesting the reasons for the present shapes and areas of individual land parcels. One of the striking aspects of the land maps of these areas is the odd and irregular shapes of land holdings. This is not true of all Okinawa. In some areas, plots on the hillsides are symmetrical, often rectangular or square. In the areas studied, there are plots of this sort, but also many that have very irregular shapes. 174 423 423

It is possible that after the abolition of the old system, some areas in the island were resurveyed, while others were not. Such surveys could have approximated the old areas but created a more regular rectangular pattern. In Hanashiro resurveying apparently was not done. The historical reasons for the present boundaries are not known because of decades of cultivation and because the land has not always been used for the same purposes. One of the large rice growing areas in Hanashiro is a recent development. The changes from paddy to dry crop land, or the reverse, seem to have followed the fluctuations in sugar and rice prices. It was quite probable that formerly the land was less level, that it was more heavily forested, and that odd shapes were due to the cultivated areas winding around large outcrops, patches of stony land, clumps of trees, uncultivated slopes which have now been reclaimed, leveled and cultivated. 174 423 311 [435]

Conditions like this are a commonplace in Okinawa today. Some of these boundaries also may be following the lines of old streams. Rivers, or more properly creeks, are not numerous in Okinawa and their presence is often hidden: a stream rising in a nearby mountain and ultimately going to the sea eight or ten miles away may be lost in a wide paddy area and trickle off again in its stream bed after several hundred feet of dispersion in the paddies. The boundaries may also 174 423 [133]

[4] Goldschmidt, Richard. Neu-Japan. Berlin, 1927, 131. (My translation). The same criticism appears of the system in the middle east. See footnote 2 above.

311 243 be lowered. If the rainfall is unusually low, the estimated yields may even be cut in half. Grade differences are also shown by the Oushichan tax table on rice land:

Class	Rate in Yen (per tsubo)
[651] 1	37
2	34
3	31
4	28
5	25
6	22
7	19

311 The grading of dry crop land is not so simple because various crops can be grown and there are difficulties in making equivalences of yields. The grading is more subjective and vague, with gradations based on the judgment of the land committee. It might seem that the grades of dry crop land based on subjective judgment would be difficult to agree upon. This is not the case. Farmers who have lived in the village all their lives, and who as children remembered the experience of their fathers, know their own and their neighbors' land well. Representatives from the village who suggest the grades are chosen by the farmers for their honesty, skill in agriculture, and knowledge of the land.

311 134 133 Depth of the soil, flatness, degree of stoniness and accessibility are the most important criteria. The first three of these follow naturally from conditions widespread in Okinawa. There often is very little topsoil. One can observe cuts in roads or sharp declivities which show soils only an inch or two deep before meeting the consolidated or unconsolidated rock below. The hilly and mountainous nature of the island enforces cultivation on slopes, summits, and rolling hills. Stoniness, whether large boulders or small pebbles or both is common. One of the occupations of the old in Minatogawa and Nagamo is to convert stony to arable land by tediously picking [887] up the stones and throwing them into piles for subsequent sale in road building. But often the boulders are so large that cultivation must curve around them. These conditions can be seen to good advantage in Nagamo. In Hanashiro, the soils are flatter, less stony, and deeper. Matsuda has wide areas of poor shallow and stony soils. [291] First class hatake land, then, is flat, deep, with few or no stones, and suitable either for sugar or the sweet potato and the various common vegetables.

311 With this standard of first class hatake land, the other grades are judged, mostly by inspection and through consultation and agreement by the committee. In the Oushichan township, there are ten such grades of hatake land, the tenth grade being so poor that it is virtually genya land. In dry crop land, probably the most important

single criterion is nearness, providing the land has possibilities. Good land, unless of substantial area, if remote and far from roads, is very time consuming and inconvenient. 311

Genya land in the Gushichan area has two grades. The criterion here is the presence of grass and small shrubs that can be used for firewood. Grade two genya grows little or nothing either because of the large boulders or because it has too many small stones or unconsolidated rock with little vegetation. If it were not for stones or such topographical factors as steepness or ruggedness, some genya land could be classified as poor grade dry crop land. There are, as in rice land, tax differentials according to grade of hatake and genya land:

Grade	Dry Crop Land Tax in Yen	Wild Land (Genya) Tax in Yen
1	13	2
2	12	1.80
3	11	
4	10	
5	9	
6	8	
7	7	
8	6	
9	5	
10	4	

In Ginoza-son, the land classification system is substantially the same. There are six different grades of land classified according to yield in go per tsubo. (A go is 1/1000 of a koku, a tsubo about 4 square yards).

Grade	Yield	Remarks
1	5	Two annual plantings.
2	4	Two annual plantings.
3	3	Dependent entirely on amount of estimated rainfall.
4	2	
5	1.5	
6	1.0	Mountain paddy, very uncertain, depending on rainfall; occasionally two crops a year are possible.

Dry crop land is judged by criteria similar to those in Gushichan-son. Grade 1 is good soil and convenient to water with good yields as shown by experience. Grades 2 and 3 are convenient to water, but soils are of lesser quality. The classification is also based on experience. Grade 4 is in low places, generally narrow ravines between steep wooded slopes. Grades 5 and 6 have little or no water, are stony, and inconvenient.

In the areas studied, no serious sheet erosion was observed

No doubt this may be a problem in parts of Okinawa, but it is doubtful that this menace will threaten the habitability of the island. Occasionally one can see a freshly hoed field on a slope that is losing its soil during a downpour. But the fact that the hills and mountains are covered with vegetation, are not too steep, and that grasses and shrubs are cut off allowing the stubble with the roots to remain in the soil effectively binds the soil of the hills and at the same time prevents flash floods. With the exception of stony soils, the land of the areas studied had a plant cover. This statement is not inconsistent with the previous remarks regarding deforestation, as the disappearance of the pine, the cycad, and the pandanus has been offset by the spread of kaya (miscanthus) grass. Boundary paths also keep the soil in place. They often roughly follow the slope and are sufficiently crooked and winding and of sufficient depth to prevent washing away of large quantities of soil. While there is no complex irrigation system in these areas, the small ditches which carry the water down the slope are winding and covered on their borders by weeds. Occasionally one can see a farmer shovelling up the soil accumulated in a natural catchment in a bend of one of these ditches and restoring the lost soil to his land.

134 133 137 185 [487] [317]

In all areas, equally simple devices to protect the soil could be observed. Roadside borders of stone, like the stone of a rock garden, often line the fields adjoining main roads. (One could write a long essay on stones and the part they play in the culture of the people). These stones come from the fields. If fields do not have stone borders, weeds are left to grow. They are cropped, but the roots are left in the soil. In Hanashiro, stone fences on slopes and contour breaks are a common sight. Sometimes these have the appearance of blunt wedges, the end of the wedge going up the ravine. These stones have been painstakingly gathered from nearby areas.

185 419

Terracing is practiced in a crude form in these areas. It really is step or bench cultivation, the plots being above one another in step like order. The function of terracing is, in the case of the dry crop land, to bring more land under cultivation, protecting it from washing away; in the case of the rice fields, it supplies flat land for cultivation at different levels. In the areas studied, terracing did not go all the way up the mountain side, although this practice can be observed in parts of Okinawa.

185 241

Very frequently the ledges of the terraces are covered with a border of weeds or cropped grass which prevent soil runoff down the hill. In the Matsuda area, rice is grown up a narrow mountain valley, or ravine, with trees and shrubbery on the hillsides growing to the very edge of the cultivated plots. In rice terracing, the boundary paths often divide one step from another with openings in the ditches to allow the passage of water to the level below.

311 Slow conversion of land to arable fields is constantly going on in situations in which the amount of labor involved is not even considered. One such activity in the Hinatogawa area is typical. [134] Originally the field could not be worked because of the large quantities of smaller boulders, stones, and pebbles, all small enough to be carried off, too numerous to encourage hopes for quick transformation. With difficulty this land is worked with the short [912] handled broad bladed hoe. The hoes with two or three prongs are [462] used for softer soils. This hard hoeing is often done by women. The surface stones are thrown aside into little piles along the road. [491] These can now be sold for use in road construction. The vegetation on the surface is also turned under. Later in the year, after the rain has gone into the loosened soil, it is hoed again, and this time it is possible to go in deeper. Weeds, rice straw, unused miscanthus, straw from the pig or goat pen may be added, and this is allowed to rot in the soil. Then the field is hoed again, and the deeper rocks and stones, and those left behind before, are unturned and the process is repeated. In the end, and this period may vary from one to several years depending on the quantity of stones, the farmer has a plot of [134] land, of a rich chocolate brown color, of fair texture and fertility, suitable for growing sweet potatoes.

133 311 In Matsuda, there is a slightly different situation. The topography here has a different character than that of the south. Hills, caves, sinks, and slopes are everywhere, and as a consequence, cultivation is more scattered. In the southern villages, land use follows a more recognisable pattern. The low flat areas are used for rice, the higher parts of the flat land and the slopes and the rolling upland for dry crop land, while the highest parts on the hill or mountain summits are in grasses, shrubs, and scattered scrub trees. In Matsuda, these are all mixed up. Rice may be growing in a genya area. In another part of the village, sweet potatoes may, in a similar situation, be the rule. This crazy-quilt pattern of rice, genya and dry crop land, all adjoining, stimulates the gradual conversion of genya to arable land. When rice is made out of the genya land the converted plot is known in Okinawan as gata. It is a laborious process of clearing, removing stones, hoeing, cutting perpendicular sides, making a hard surface to contain the water for the rice that will be grown. In some sections of Matsuda, the very small valleys have been converted to S-shaped rice plots.

311 134 Casual observers often see unused land and conclude that large amounts can be reclaimed. They do not see the stones, or the hard-rock which may be an inch or two below the surface. They would do well to look at village maps to see how these lands are regarded by the villagers who have tilled them. Probably more efficient conversion and reclamation could be carried on with machinery and with the generous use of fertilizers.

311 185 In the desire for more land, it should not be overlooked that the great conservation value of genya land and the poorer upland

plots lies in their being as they are, separating one cultivated area from another, binding the soil, and that they are probably serving their best purposes now, as they have in the past, in furnishing this protection. 311 185

The conservation practices of the Okinawans are at least in part a consequence of the topography. The care of upland areas and rolling hills is imperative. For a great deal of cultivation takes place here. Unlike China, there is not a strong contrast between large scale paddy rice in alluvial soils and the relative neglect of upland areas with deforestation and erosion. In China the meticulous care of the transported soils of the lowlands and the neglect of the uplands is a striking aspect of the attitude toward land. This is true, perhaps to a lesser degree, of Japan.[11] 185 133 311 [191]

In Okinawa there are insufficient delta plains and alluvial soils to provide these contrasts between lowland and upland agriculture. The scarcity of river deltas and alluvial plains means relatively little rice and the use of the rolling hills and the steeper sides of mountains. This necessity has enforced a care of the uplands. It is true that one often sees sweet potatoes or other dry crops growing in rows up and down a hill instead of along contours, and that there seems often to be a lack of appreciation of the consequences of misuse of forest land through clear cutting. But in the main in the use of the uplands for cultivation, the weed borders or rock fences, and other simple devices keep the soils from erosion. The relatively gentle topography has also contributed to this achievement.

4

Fragmentation and Consolidation

Fragmentation of land is common in Okinawa. Ownership of contiguous plots of land is not the general rule. It is a basic fact of land tenure and influences land use and agricultural practice. This fragmentation is a deterrent to the use of machinery, unless cooperatively owned or unless certain individuals specialize in the 423 241

11 See James Thorp, Geography of the soils of China, Nanking 1936, especially Chapters xii-xiv. Gourou, Pierre. The development of upland areas in China, and Trewartha, Glenn T., Utilization of Upland areas in Japan. In: The development of upland areas of the Far East, Vol. I. (Institute of Pacific Relations), New York, 1949. Trewartha describes his surprise in his earlier studies of Japan and his acquaintance "with the fact that the Japanese, like most Orientals, greatly deprecate the value of upland or non-irrigated sites for agricultural land use." (p. 59). This choosiness is not possible for the Okinawans.

132 March through June is the season of greatest rainfall and therefore
731 of greatest flood danger. September and October rain is often light, and it is during this period that there is the greatest likelihood that the sweet potatoes will dry up. During the rainy season, there is flood damage to the rice and dry crop fields, especially if they are in the narrow ravines, or along small stream beds.

132 In Hanashiro, dependence on rainfall is immediate and direct.
312 There is no way of storing water in the mountains by accumulations
241 of snow. Runoff from the hills into the small streams is rapid. Short periods without rain are serious. The planting of the sweet potato is very sensitive to this factor. If one asks a farmer when he plants sweet potatoes, he always qualifies his reply by beginning, "If there is enough rain..."

241 There is in these villages no complex irrigation (kangai). In
312 Hanashiro, the flow of water through rice fields and its division are controlled by simple means. Water comes from the nearby hills, either in rivulets or in slightly wider ditches. In the former case, the water is divided by allowing the owner on one side of the stream to get water one day, diverting it on the next to the other side. The larger streams may be forked.

[133] Streams soon lose their identity as they descend from the hills to the lowlands, where they become the water of the paddy. The streams of Okinawa are hidden in the rice fields.

241 In Matsuda, the flow of water down the hillsides is controlled
311 largely by bench cultivation. Rice paddies go far up the narrow valleys
312 and ravines. When these have been converted to rice fields, the water flows into the highest level. A small aperture on the opposite side allows it to fall into the next lower paddy until the water reaches the level of the valley or lowland, where it may be further dispersed throughout rice fields, or trickle off again as a stream. In this way, the flow of the water, not too fast, not too sluggish, provides continually fresh water with its nutrients from the hillsides for each field, and makes possible the irrigation of large areas.

It is for these reasons that terracing is practiced. Cultivation is easier. So is irrigation. Soil runoff is avoided. Terracing is the only way that a ravine or a small slope can be used for paddies, for which a flat and level piece of land is required. Otherwise, the water necessary for the plant runs off.

1: Clacken E-5 (1951-1952) 1953 AC7 Okinawa AC7

sandstone one sees in the new buildings of Naha often is from the quarries of this area. Stone quarries are scattered in various parts of Okinawa, but the Hinatogawa stone is considered the best.

Sandstone quarrying started, according to older settlers, about sixty years ago. Cutting began on the coast, gradually working up slope over rolling stony land. It is an interesting example of the transformation of a landscape by man. Now with the old methods still in use, the cutting has extended beyond the village. Stonecutting operations in the main are in the steep bluffs around both villages, although there are numerous cuttings in the newer settlements of Hinatogawa and along the seashore. Frequently the cut stone blocks lie near the temporary Hinatogawa tombs which dot the rocky coast. By the simplest methods, large quantities of stone have been and continue to be removed. All work is done by hand; machinery was installed by the Americans after the war, but it is out of working order and stands idle.

Before the war, stonecutting in this vicinity was a more thriving industry than now. Quarries are also found in neighboring Tamagusuku township and there is a distributing outlet in Horikawa, the village across the river. Before the war from 300-500 men are said to have engaged in stonecutting. Now there are about 120 in both villages. Many of these stone workers had come from other parts of Okinawa and the Ryukyus: men from the offshore islands, Ie-shima, the Kerama chain, and Iheya, and on the south east, from Kudaka, Tsuken, and Hoanza islands. Most of these settlers from the offshore islands have left. A few, born on Ie-shima, or from the northern district still remain.

Since the war coastwise shipping of lumber and firewood from the north and stone from the south had declined sharply. Trucks have largely displaced the boats. Transport costs are high and the stone is in demand in closer markets.

2

Acquiring and Working the Land

Customary practices govern the quarrying of stone. These eliminate the need for written agreements. Interested persons know the properties and the possibilities of each site. These customary practices are concerned with the acquisition, the working and the restoration of land. Techniques for working the stone have remained nearly the same for at least sixty years.

The stonecutter purchases rights to the stone, not the land itself. When the stone has been extracted, the land is returned to its owner. This is unimproved land, but after the stone has been quarried, a house may be built on the site. When a stonecutter (sekko) wishes to acquire a certain holding, he calls on the owner of the land. Following oral negotiations, the price is agreed upon. A good price

settled area and for protection of the surrounding crops. Around houses, there are common stone fences, bamboo fences and trees. Stone fences, though solid may be toppled over. Bamboo, or dwarf bamboo fences, seemingly slight, resist the winds and remain intact because of their flexible loose weave.

The trees on the ridges of the low lying hills or on high pieces of ground are tall, and sturdy, and jealously protected. The villagers take great pride in them. Today this pride is based on the realization of their effectiveness; in former times, their protection was associated with the worship of the gods of the sacred grove (utaki). There were beliefs, which now seem to be dying out, that cutting these trees would bring bad luck. Many villagers say that Saion in the 18th century intentionally invented superstitions concerned with the cutting of the trees in order to save them. Now these trees are no longer in danger of cutting, even though the penalties of the old beliefs are no longer feared.

The following short list does not exhaust the kinds of trees and plants found in this area. It is confined to those trees, shrubs, and grasses which are most frequently found and which have the greatest local importance.

(1) The Ryukyuan pine (Riukiu-matsu in Japanese, Pinus luchuensis Mayr). This tree is still one of the commonest sights of the Island, even in southern Okinawa. At present, it is a source of firewood, cheap lumber, and siding. It is not considered good housebuilding material because of termites (shiroari). Pine was used for fishing boats within living memory, but now they are made of much harder woods. In this area, the coniferous groves are along the seashore. The larger stands are not cut. Scrub pine on individually owned wild land may be cut for firewood.

(2) The fukugi (Garcinia spicata Hook.). The fukugi is used around homes and on mountain ridges as a typhoon protection. It is fairly plentiful here and prized as a building material (kenchikuzai). The hard studs, beams and cross beams and the wide plank floors in the older and better houses are often made out of this wood.

(3) The iju (Schima luchuensis Mak.). This tree, common here, is used as a building material and is considered to be better than the Japanese redwood (sugi). It is not regarded as a good firewood.

(4) The inumaki (Podocarpus macrophyllus D. Don). This tree is not well known here, and there are no large specimens. But it is regarded as the best building material when available. Often the large, hard, rough hewn poles which are placed on stones and support the eaves of the older houses are made from this wood.

(5) The shii (Shiia cuspidata). The dense stands of this tree in the village owned forest restrict the size of the specimens, though

133●

A part of the Matsuda forest. There has been access to the summit and clearing has taken place there. The trees are on the slope. The light area on the summit is a growth of Yambaru bamboo which has replaced the trees.

2:Maretzki & Maretzki E-5 (1954-1955) 1963 AC7 Okinawa AC7
Taira

Part I

The Ethnographic Background

Chapter 1

The Setting

THE ISLAND

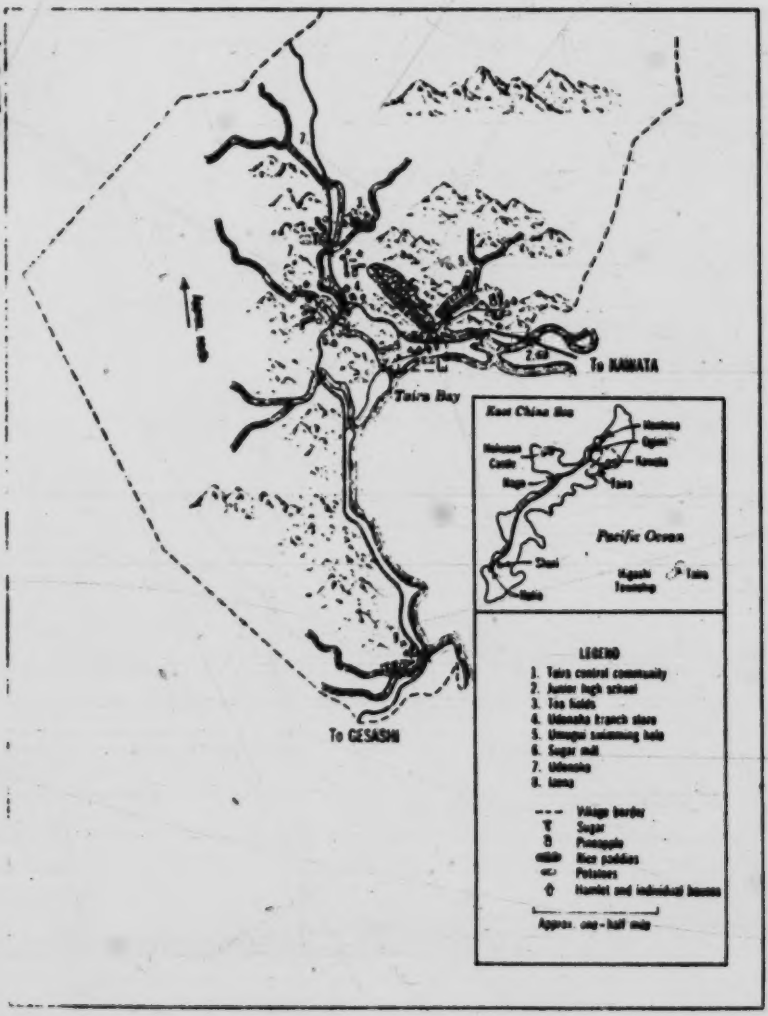
Okinawa lies a day's voyage by steamer to the southwest of the Japanese island of Kyushu. Leaving Kyushu, the ship passes along the Ryukyuan chain until it reaches Okinawa, the largest of the islands. Land is never completely out of sight until the ship enters the port of Naha, capital of the southern Ryukyus.

The Ryukyus are part of a long string of islands which, beginning in the north with the Kurile Islands and Sakhalin, run all the way south, including Japan, the Ryukyus, Formosa, the Philippines, and the Indonesian archipelago. In their offshore position on the Western rim of the Pacific Ocean, the Ryukyus are within access by small craft from Japan, Korea, and China. This geographic position of the Ryukyus puts them within the sphere of influence of several countries,

2:Maretzki & Maretzki E-5 (1954-1955) 1963 AC7 Okinawa AC7
Taira

the two main "houses," or family lines in Taira, and for several centuries Taira must have been a small, closely knit community of interrelated people.

Between 1875 and 1895, when the court life at the old capitol of



Map 1. Taira village (Higashi Township).

the community is dispersed. In the outlying parts, as far as 2 miles from the center (see map 1), the houses are scattered between the paddies or farm lands in sections which form subvillages or wards. As mentioned above, settlers from the south took up residence in these areas. Recently families from the main village have also moved to the more remote parts of the community, such as Udenaha, because they can reach their fields more conveniently. Although the name Taira refers to the political unit of main village and outlying parts, including Udenaha and Izena, most references in this study pertain only to the central community. Its 60 households, with about 330 individuals, form the primary social unit from which the sample of 24 children was chosen.

Central Taira nestles along the inner shore of Taira Bay, which opens into the Pacific Ocean. At this point the median range mountains recede from the coastline. Behind the village, rice paddies spread in a crazed pattern at the bottom and on the terraced sides of several valleys which are separated from each other by sparsely wooded hills. Here and there the red earth of an eroded section shows like a scab through the green slopes.

In traveling by road from the south, most people choose the highway along the East China Sea coast, which is connected with the road which crosses the island. Higashi township is entered through a low saddle in the mountains which separate the two coastlines. To the right and left begins Taira's forest. Central Taira is reached through a winding lane bordered by pine trees. To the left the view opens into one of the neatly cultivated rice fields, backed by the hills on whose flat tops and terraced sides village people cultivate their farm lands.

The central village itself lies on a sand bluff, separating the valley from the ocean, so that there is a slight drop toward both sides (see map 2). The main road runs the length of the village. Except for the thoroughfare, which is dirt and gravel, the side roads are not surfaced, and after heavy rains puddles form and remain for more than a day, to the delight of children who play in them.

When Taira was destroyed during World War II, along with its houses went much of the foliage which once served as a windbreak. A few fukugi trees * line the main street, and hibiscus hedges here and there hide some of the houses from a first inspection. There are bushes around the edges of the village.

The war-time destruction is hardly apparent on a first walk through the village. Along the main street, lined by houses, one finds the rice mill, a substantial new building of concrete and wood, the police sta-

* A small- to medium-sized evergreen tree with a narrow, upright, very dark green crown of leaves.

[TEXT CONTINUES ON P. 377]

312 Water is diverted from a stream a mile
365 above the village and piped into the upper and lower tanks where
[482] people fill their buckets which they carry home on a shoulder yoke.
[859] Both tanks always attract children. Before faucets were installed, the two spigots on each tank were closed with a wooden stopper which the children often pulled to get a drink or water to play in. An open lot surrounding the upper water tank is another popular play area.

361 On the eastern side of the village below the main road lies a flat sandy plain, separating the actual beach from the houses above. Children are frequently found playing there or walking along the beach
[764] to the mouth of the Noro Mata and Fukuji rivers, which reach the sea
[211] about 400 yards away. To the west of the central village lie the tombs and the monument for the war dead of the village.

487 Many hills around the village drop off vertically toward the south;
[133] these drops are partly effects of the geological conditions, such as karst depressions, partly caused by erosion of drainage during the heavy
[491] rains. Narrow paths, leading up the steep claylike hillsides, are slippery and very treacherous during rains. On the way to school in Kawata, the neighboring village, children have to pass a section of the road where river and rains have washed away the bank so badly that a misstep on the edge of the road could lead to a fall of more than 50 feet.

312 The little river which runs through parts of the valley behind Taira
[857] is another gathering place of children. A path alongside it leads into
[487] the hills and mountain forest lands. Seven minutes walking along this path takes one to Umugui, a natural swimming hole which also serves as one of the favorite laundry places. During the summer the river offers several other popular swimming spots downstream from Umugui.
[296] There is also a little concrete bridge in the rice fields beyond the houses, where adults and children go to wash laundry and sometimes pots and pans. Yamagawa well is a water hole, lined with concrete, near the northwestern part of Taira. Before water faucets were installed, girls frequently went there to wash their hair and do laundry.

859 Children go to the fields to look for flowers and berries or, in the
[484] case of older boys, to cut grass for animals. Distances covered by any child depend, of course, on the age. Younger siblings under 5 accompany the older ones to places beyond the area, but no expeditions extend to areas that are not also regularly traversed by adults in the course of their daily duties. Perhaps because of the multiple rivers and water sources, the beach offers less enticement than one might expect. On some days a group may decide to play on the beach, but since sand is also available throughout the village, everybody will soon shift back to some other area inland.

137 Tropical plants, bushes, and trees grow at sea level. At higher ele-

CHAPTER I: GEOGRAPHY

F. R. Pitts

[131] Location Okinawa is a longish island, lying about halfway between Formosa and the southern tip of Kyushu. Together with clusters of islands lying both to the east and west, it forms the political unit known as Okinawa Gunto.

[133] Along the axis of Okinawa, which trends from southwest to northeast, there is a fairly simple division into a plateau-and-mountain northern half, a central plateau area, and a low rolling southern knob. The Motobu peninsula juts westward from the northern, or Kunigami, half and forms a distinctive area. Between the Kunigami mountains and the peaks of Motobu lies the ricebowl of Okinawa---the Haneji lowland.

[311] [241] Arable Land In general it can be said that the farm population increases as one proceeds south. Map 2, showing the arable land under cultivation as a percentage of the total land area, illustrates this.[1]

Farms in the mountain and plateau north are found in incised V-shaped valleys. Water is plentiful, and rice paddies cover the valley floor. Villages hug the edges of the flat land, and incredibly small sweet-potato terraces rise [137] up the valley's edge. Atop the plateau one finds only silence, and a dense growth of trees and bamboo. Many of the people in the valleys are part-time [132] foresters. The Motobu mountains guard from the frequent typhoons little settlements famed for growing the indigo plant and pineapples. The peninsula's north shore is a fertile but ever-narrowing extension of the Haneji lowland.

In the central plateau area---Nakagami---sweet-potato fields compete with scrubby forest for space on the plateau. Where sufficient water is available, rice fields cover the tiny valley floors and the low-lying coastal [134] fringes. The triangular southern end of the island is known as Shimajiri in popular terminology. Shimajiri is blessed with the greatest concentration of [132] fertile arable land on Okinawa. But the blessing is somewhat reduced by greater exposure to typhoons and a chronic water shortage. Sweet potatoes and sugar cane rank first among crops here.

[311] [243] [241] Riceland Okinawans prefer to eat rice rather than sweet potatoes whenever possible. It is a paradox, however, that areas of greatest farm population grow the least rice. The thinly populated north has the greatest amount of riceland. Map 3 charts the distribution of riceland---or flooded fields---on Okinawa. Even in the southern 'son' of Yonagusuku and Kanegusuku flooded fields often contain the mat rush rather than rice. It is a good cash crop, and is sturdier than rice when typhoons roar through the islands.

[128] [1] The figures upon which the maps in this section and the population section are based are found in Appendix A. The figures for Japan and Kagoshima-ken are given for comparative purposes. Of all the prefectures in Japan, Kagoshima most nearly resembles Okinawa in climate and emphasis upon sweet potatoes as a staple food.